(2) Amended claims

1. (Original) A valve of the type having a casing provided with openings to be connected to a fluid pipe line, wherein at least one of the casing openings forms a groove and having a valve chamber therein with at least one inlet and outlet port for defining a fluid flow path through the valve chamber, the valve comprising:

a plug mounted in the valve chamber and having an exterior surface and two ends and a fluid flow passageway extending between the ends and through the plug, the plug having an axis of rotation extending transverse to the direction of the fluid flow passageway, the plug being rotatable about the axis of rotation for selectively turning the plug between an open position in which the fluid flow passageway is disposed along the fluid flow path between the inlet and outlet ports and a closed position in which the fluid flow passageway is disposed transverse to the fluid flow path;

a disk having an opening therein, the disk located inside at least one of the inlet or outlet ports, the disk having at least two sides, wherein one of its sides closely conforms with and interfaces with the exterior surface of the plug, wherein the opening of the disk interacts with the fluid passageway extending between the ends of the plug so that different flow characteristics are achieved when the plug is moved between the open and closed positions; and

an internal retaining ring sized and shaped to fit at least partially inside the groove, wherein the disk is retained by the internal retaining ring which is at least partially recessed into the groove in one of the casing openings.

2. (Original) The valve of claim 1, wherein the disk opening is essentially V-shaped.

3. (Original) The valve of claim 1, the disk comprising a key, the casing comprising a member for cooperating with the disk key, wherein the disk key mates with the cooperating member of the casing.

4. (Original) A valve of the type having a casing provided with openings to be connected to a fluid pipe line, wherein at least one of the casing openings forms a groove

and having a valve chamber therein with at least one inlet and outlet port for defining a fluid flow path through the valve chamber, the casing further comprising a cooperating member, the valve comprising:

a ball mounted in the valve chamber and having an exterior surface and two ends and a fluid flow passageway extending between the ends and through the ball, the ball having an axis of rotation extending transverse to the direction of the fluid flow passageway, the ball being rotatable about the axis of rotation for selectively turning the ball between an open position in which the fluid flow passageway is disposed along the fluid flow path between the inlet and outlet ports and a closed position in which the fluid flow passageway is disposed transverse to the fluid flow path;

a disk having an essentially V-shaped opening therein, the disk located inside at least one of the inlet or outlet ports, the disk having at least two sides, wherein one of its sides closely conforms with and interfaces with the exterior surface of the ball, the disk comprising a key, wherein the disk key mates with the cooperating member of the casing, wherein the opening of the disk interacts with the fluid passageway extending between the ends of the ball so that different flow characteristics are achieved when the ball is moved between the open and closed positions; and

an internal retaining ring sized and shaped to fit at least partially inside the groove, wherein the disk is retained by the internal retaining ring which is at least partially recessed into the groove in one of the casing openings.

5. (Original) The valve of claim 4, wherein the disk is spring loaded and presses against the ball exterior surface.

6. (Original) A valve of the type having a casing having at least two parts one of which is screwed into the other and provided with openings to be connected to a fluid pipe line and having a valve chamber therein with at least one inlet and outlet port for defining a fluid flow path through the valve chamber, the valve comprising:

a plug mounted in the valve chamber and having an exterior surface and two ends

and a fluid flow passageway extending between the ends and through the plug which is suspended between two seat rings, the plug having an axis of rotation extending transverse to the direction of the fluid flow passageway, the plug being rotatable about the axis of rotation for selectively turning the plug between an open position in which the fluid flow passageway is disposed along the fluid flow path between the inlet and outlet ports and a closed position in which the fluid flow passageway is disposed transverse to the fluid flow path; and

a disk having an opening therein, the disk located inside at least one of the inlet or outlet ports, the disk having at least two sides, wherein one of the sides of the disk closely conforms with and interfaces with the exterior surface of the plug, and wherein the opening of the disk interacts with the fluid passageway extending between the ends of the plug so that different flow characteristics are achieved when the plug is moved between the open and closed positions, and further wherein at least one of the casing openings further comprises a groove and an internal retaining ring sized and shaped to fit at least partially inside the groove, wherein the disk is retained by the internal retaining ring which is at least partially recessed into the groove in one of the casing openings.

7. (Original) The valve of claim 6, wherein one of the sides of the disk is concave and has a diameter not greater than the inside diameter of the seat rings.

8. (Original) The valve of claim 6, wherein one of the sides of the disk has a diameter not greater than the inside diameter of the inlet and outlet ports.

9. (Original) The valve of claim 6, wherein the casing comprises a recess into which the disk fits and further wherein each seat ring is located inside a dedicated recess separate from the recess for the disk.

Claims 10 - 45 Canceled.